High Conductivity Diamond achieved via nitrogen doping

- Application of diamond as an electronic material limited due to lack of n-type doping.
- Addition of nitrogen gas to argon-methane plasma results in high conductivity diamond films.
- Theory & experiment combine to understand the effects of nitrogen on diamond growth and electronic structure.
- Nitrogen changes morphology of diamond grain boundaries and greatly enhances conductivity.
- Realization of all-diamond electronic devices now possible!